We claim:

1. In a computer system, a method of representing video data for a video image, the method comprising:

representing chroma and luma information for a pixel in the video image in an n-bit representation, the n-bit representation comprising a 16-bit fixed-point block of data for the pixel, where the most significant byte in the 16-bit unit of data is an integer component, where the least significant byte in the 16-bit unit of data is a fractional component, and where the n-bit representation is convertible to a lower-precision representation by assigning zero values to one or more of the bits in the least significant byte.

2. The method of claim 1 wherein the n-bit representation is a 16-bit representation and the lower-precision representation is a 10-bit representation.

3. The method of claim 1 further comprising converting the n-bit representation to an (n-m)-bit representation by assigning zero values to the m least-significant bits in the least-significant byte.

4. The method of claim 1 wherein the chroma information is sampled at a resolution less than the luma information.

5. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 1.

6. In a computer system, a method of representing video data for a video image, the method comprising:

representing chroma and luma information for a pixel in the video image in an n-bit representation, the n-bit representation comprising a 16-bit fixed-point block of

data for the pixel, where the most significant byte in the 16-bit unit of data is an integer component, where the least significant byte in the 16-bit unit of data is a fractional component, and where the n-bit representation is convertible to a higher-precision representation by changing an identifier for the video data.

7. The method of claim 6 wherein the identifier is a FOURCC code.

8. The method of claim 6 wherein the n-bit representation is a 10-bit representation and the higher-precision representation is a 16-bit representation.

9. The method of claim 6 wherein the chroma information is sampled at a resolution less than the luma information.

10. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 1.

11. In a computer system, a method of representing video data for a video image, the method comprising:

representing video data for the video image in a packed format representation, the video data consisting of color channel data and alpha channel data for each of plural pixels in the video image, the packed format representation having a color channel bit precision of greater than eight bits per color channel.

12. The method of claim 11 wherein the color channel data has a bit precision of 10 bits per channel.

13. The method of claim 11 wherein the alpha channel data consists of 2 bits per pixel.

14. The method of claim 11 wherein the color channel data has a bit precision of 16 bits per channel.

15. The method of claim 11 wherein the alpha channel data consists of 16 bits per pixel.

16. The method of claim 11 where the video data is in a 4:2:2 sub-sampling format.

17. The method of claim 11 where the video data is in a 4:4:4 sub-sampling format.

18. The method of claim 11 wherein the color channel data is in a YUV color space.

19. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 11.

20. In a computer system, a method of representing pixel data for a video image in a packed format, the method comprising:

storing first luma data for a first pixel in a first unit of memory;

storing first chroma data shared by the first pixel and a second pixel in a second unit of memory at a higher memory address than the first unit of memory;

storing second luma data for the second pixel in a third unit of memory at a higher memory address than the second unit of memory; and

storing second chroma data shared by the first pixel and the second pixel in a fourth unit of memory at a higher memory address than the third unit of memory;

wherein the first and second luma data and the first and second chroma data have a bit precision of greater than eight bits per channel.

21. The method of claim 20 wherein the first and second luma data and the first and second chroma data have a bit precision of 10 bits of data per channel.

22. The method of claim 20 wherein the first and second luma data and the first and second chroma data have a bit precision of 16 bits of data per channel.

23. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 20.

24. A computer-readable medium having stored thereon a four-character code for digital video data, the four-character code operable to indicate a format of the digital video data in a computer system, the four-character code comprising:

a first character based on whether the format is a packed format or a hybrid planar format;

a second character based on chroma sampling in the format; and

third and fourth characters based on a bit precision of the format.

25. The computer-readable medium of claim 24 wherein the four-character code is included in a file header of a file containing the digital video data.

26. The computer-readable medium of claim 25 wherein the four-character code is changeable to cast the format of the digital video data to a different bit precision.

27. In a computer system, a method of representing video data for a video image, the method comprising:

representing the video data in a hybrid planar format representation, the hybrid planar format representation having a bit precision of greater than eight bits per channel,

the hybrid planar format representation having a first array comprising luma information for pixels in the video image and a second array comprising chroma information for the pixels in the video image, and where the chroma information is stored within the second array in a packed format.

28. The method of claim 27 wherein the video data is in a 4:2:2 sub-sampling format.

29. The method of claim 27 wherein the video data is in a 4:2:0 sub-sampling format.

30. The method of claim 27 wherein the video data is in a 4:1:1 sub-sampling format.

31. The method of claim 27 wherein the chroma information is stored as interleaved pairs of chroma components.

32. A computer-readable medium having computer-executable instructions stored thereon for performing the method of claim 27.

33. In a computer system, a method of representing video data for a video image, the method comprising:

representing video data in a hybrid planar format representation, the hybrid planar format representation having a bit precision of greater than or equal to eight bits per channel, where the hybrid planar format representation includes a first array comprising luma information for pixels in the video image and a second array comprising chroma information for the pixels in the video image, where the chroma information is stored within the second array in a packed format, and where the chroma information is sub-sampled in the horizontal direction by a factor of two.

34. The method of claim 33 wherein the video data is in a 4:2:2 sub-sampling format.